

AL.2.1985-154

1985.144

CANADIAN  
er  
MAY 17 1984



INDOOR  
GARDENING  
185 - 84

don  
781



Digitized by the Internet Archive  
in 2017 with funding from  
University of Alberta Libraries

<https://archive.org/details/indoorgardeningu00albe>





# Indoor Gardening

units I, II, III, IV



## **4-H MOTTO**

"LEARN TO DO BY DOING"

## **4-H PLEDGE**

I PLEDGE MY HEAD, TO CLEARER THINKING,  
MY HEART, TO GREATER LOYALTY,  
MY HANDS, TO LARGER SERVICE,  
AND MY HEALTH, TO BETTER LIVING.  
FOR MY CLUB, MY COMMUNITY, AND MY COUNTRY.

## **4-H GRACE**

(Tune of Auld Lang Syne)

WE THANK THEE, LORD, FOR BLESSINGS GREAT  
ON THIS, OUR OWN FAIR LAND.  
TEACH US TO SERVE THEE JOYFULLY,  
WITH HEAD, HEART, HEALTH, AND HAND.





## TABLE OF CONTENTS

### INDOOR GARDENING

#### HOUSE PLANTS 1

##### Let's Grow 1

- Materials 1
- Environment 1
- Plant Containers 2
- Soils 2
- Potting 3
- Watering 4
- Training 5
- Rest Periods 5
- Propagation 5

##### All About House Plants 8

- Flowering Plants 8
- Non-Flowering Plants 9
- Common Troubles Of House Plants 11
- Insect Control On House Plants 12

#### INDOOR BULBS, DISH GARDENS AND TERRARIUMS 1

##### Indoor Bulbs 1

- Fall-Planted Bulbs 1
- Potting 3
- Rooting 3
- Forcing Into Bloom 4
- Winter-Planted Bulbs 5

##### Dish Gardens 7

- Kinds Of Dish Gardens 7
- Materials 7
- Plants 7
- Containers 8
- Soil 9
- Drainage 9
- How To Make A Dish Garden 9
- Care Of The Dish Garden 10
- Suggested Plants For Dish Gardens 12



Terrariums	13
- Materials	13
- Types Of Terrariums	13
- How To Make A Terrarium	14
- Container	14
- Soil	14
- Drainage	14
- Plant Materials	15
- Planting	15
- Watering	16
- Care Of The Terrarium	16
 FLOWER ARRANGEMENT	 1
Arranging Can Be Fun	1
- Materials	1
- Mass Arrangements	2
- Fitting Arrangement To Location	2
- Principles Of Flower Arrangement	3
- Steps In Arrangement	4
- Flowers You Can Use	6
- Demonstrations And Hints	6
 CORSAGES, WINTER BOUQUETS AND CHRISTMAS GREENS	 1
The Basics	1
- Requirements	1
- Materials	2
Corsages	3
- Wiring Flowers	3
- Wiring Foliage	3
- Making A Bow	4
- Types Of Corsages	4
Winter Bouquets	5
- Plant Materials	5
- Containers	6
- Holders	6
- Other Materials	6
- Drying Plant Materials	6
- Making The Arrangement	7
Christmas Greens	7
- Materials	7
- Greens	8
- How To Make Christmas Greens	8



## INDOOR GARDENING

People who love growing plants and working in gardens don't have to say goodbye to their green thumbs as soon as the first frost hits. While the snow is on the ground and during the whole year, you can enjoy gardening by growing plants indoors.

The 4-H indoor gardening project is carried out during the winter. As in the outdoor gardening projects, the project becomes more challenging in successive years.

Since this is a fall and winter project, most of the plants will be at their best at a time other than the regular achievement day. It is suggested that the club set aside a meeting or special day to show the plants and to judge them. The winter achievement day will be counted as part of regular achievement day (1/3).

Beginners are required to care for two mature house plants, one of a flowering variety, one of a non-flowering variety. The member will also start two new plants from cuttings, starting one from each of his mature plants. He will show all four plants and their records at a meeting or winter tour.

Second-year members will continue to care for and will exhibit the plants started in the first year. In addition, they can:

- (a) Grow three pots of bulbs of at least two types. Try to have them flowering or about to flower at the time of the mid-winter show.

OR

- (b) Grow a dish garden or terrarium. Records will be kept and exhibited with the plants.

Senior members should continue care of plants started in earlier projects. In addition: (Choose one of the following)

- (a) Second-year project may be repeated with other varieties.
- (b) The option not chosen in second year may be taken.
- (c) Flower arranging - construct one line arrangement, one mass arrangement.
- (d) Construct corsages and exhibit three.
- (e) Construct a winter bouquet or Christmas arrangement.



These projects may be completed using flowers grown in an outdoor project, or using indoor flowers.

Records will be kept of the project and exhibited with them. In options (c) and (d), if garden flowers are used, special arrangements may be made for exhibiting at a fall meeting instead of a winter show. Other parts of the project such as house plants may be shown at a winter show.

Senior members will also be required to give a demonstration of some aspect of their project.

# Unit 1

## House Plants







## HOUSE PLANTS

Imagine how a colorful plant in bloom can brighten up your home! You can enjoy house plants any time of the year. They don't need warm weather or garden space outside like summer flowers do. You can grow them in your home all year round.

There are several kinds of house plants that are fun to grow. Some of these can stand the dry air of most homes and will make pretty blooms without much care. Other plants require more attention.

House plants need light, heat, air, food, and moisture. Good care of plants means that you water them correctly, take off the old blossoms and dead leaves, kill insects that harm them and put the plants in bigger pots when needed.

There are two kinds of house plants - those that have flowers and those that don't. Some flowering house plants are African violets, begonias, and geraniums. Other plants are grown for their beautiful leaves. Some of these are ivy, ferns, and philodendron. In this unit, you will learn how to grow and care for both kinds of house plants - flowering and non-flowering.



### LET'S GROW

#### Materials

Flower pots - four 2½ inches  
About one gallon of soil (good garden soil or rotted sod)  
About one quart of sand  
About one quart of peat moss, vermiculite or perlite  
Fertilizer, one small bottle (maybe you can borrow some)

#### Environment

Why do some house plants do well while other just won't grow? The environment has a lot to do with it. Environment means the amount of light, heat and moisture in a room. You can choose the plants that will grow best in the particular environment of your home.

Most house plants need plenty of light. If they don't get enough light, the plants will have pale yellow leaves and long skinny stems. If your plants are like that, move them to where they will get more light. Some plants, such as African violets and gloxinias, grow well under fluorescent light.

Plants that need the most light should be grown in south, east, or west windows. Foliage plants can be grown in a north window. All plants will reach toward the light so turn the pot several times a week to keep the plants from getting "one-sided".

If your home has gas for cooking or heating, you may have trouble growing plants. Even the tiniest gas leak can harm a plant by causing the leaves to turn yellow. It helps to keep a window open whenever possible.

### Plant Containers

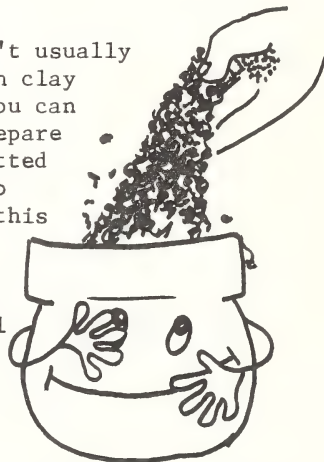
You have probably seen the clay pots that most plants are grown in. These pots are light in weight and don't cost much, but they do break easily. They are porous, which means the plant can "breathe" through them. Pots used for growing plants may be tin cans or containers made of glass, paper, rubber, plastic or wood. Any of these materials can be used if you know how to water and care for the plant.

### Soils

The soil that comes from a garden or field isn't usually good for plants in pots because it contains too much clay which keeps the plant from getting enough water. You can buy a special soil for potting plants or you can prepare your own from loam, peat moss and sand. Loam or rotted sod provides plant food and peat moss will help keep the soil from caking or packing. Sand is added to this mixture to make it porous.

Then, you will need a fertilizer such as dried manure, to help the plant grow. Sometimes bone meal is added to supply phosphorus which is a food that plants need.

Soil from a garden or field is often low in potassium. Therefore, it is recommended that the member use 1/2 teaspoon of commercial fertilizer such as 16-20-0 for every two gallons of soil mixture. Any fertilizer with moderate amounts of phosphorus and potassium and slightly lower in nitrogen is a good fertilizer to choose. Be sure to blend in fertilizer or manure well.





When mixing soil materials for house plants, a general rule to follow is:

- three parts of loam
- two parts of peat moss, vermiculite or perlite
- one part coarse sand.

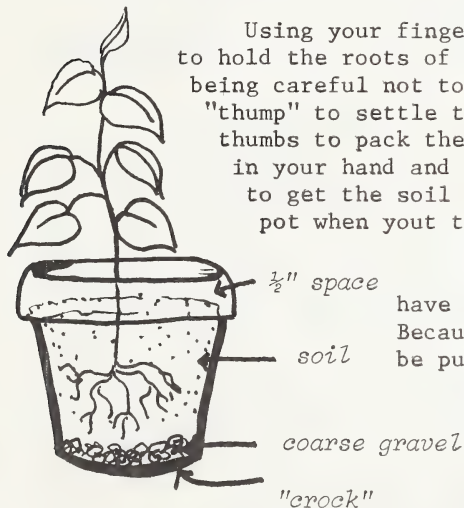
For most plants, the above mixture will be right.

Soil and manure may contain harmful diseases, insects and weed seeds. For best results, it is recommended that you sterilize the soil mixture. Sterilizing the mixture involves placing it in the oven at 180° for a period of 1/2 hour. A mixture containing manure gives off an offensive odor during sterilization. Therefore, it is often best to use a commercial fertilizer.

### Potting

If you have little plants grown from seeds, start them in small pots. As they grow, shift them to bigger pots. Before using a new clay pot, soak it in water for 10 minutes and let it drain dry.

To plant seedlings, first cover the drainage hole of the pot with a piece of broken pot, called a "crock". A few flat stones can serve in the place of a crock. This keeps the soil from washing out the bottom. Cover the crock with coarse gravel then add soil up to the rim of the pot.



Using your finger or a small stick, make a hole large enough to hold the roots of the seedling. Place the roots in the hole, being careful not to bury any of the leaves. Give the pot a "thump" to settle the soil then press with your fingers and thumbs to pack the soil around the roots. Now hold the pot in your hand and give it several sharp taps on the table to get the soil all around the roots. (Don't break the pot when you tap it!)

Rooted cuttings are pieces of a plant that have been cut off and grown to make new plants. Because they usually have more roots, they can't be pushed into a hole in the soil.

After you put a crock in the pot, add a little soil then hold the cutting in the pot. Sift the soil all around the roots then fill the pot to the brim. Jar the pot to shake down the soil then press with your fingers and thumbs to make it firm around the roots. Leave about a half-inch space at the top of the pot for watering.

## Watering

How often and how much should you water your house plants? That's hard to say. The average home, today, usually has very little moisture in the air. You can correct this in your home by placing pans of water on radiators so the moisture will evaporate into the air. Potted plants can be placed in shallow containers that have pebbles, sand or peat moss in the pan to absorb surplus water.



You should water plants in the morning when the temperature is rising and there is a greater need for water. It is not a good practice to water plants or to have the soil wet when the temperature is falling because diseases may be started.

Use enough water to soak all the soil in the pot. Watering a little bit and often is not a good practice.

Plants that have been repotted need careful watering. Too much water will cause rotting and lack of water will cause the plants to wither and die.

In addition to moisture, plant roots need air. That is why the bottom of the pot has a hole for drainage. It prevents waterlogging of the plant roots. Plants in glazed flower pots with no drainage holes should be watched carefully to prevent water from standing in the bottom. You can set the plant on stones or pebbles in the bottom of the glazed pot.

After house plants have started growing well, you can give them more water without harming them. Plants need more water in the summer than in the winter, as do plants in a sunny window compared to a shady window.

Should plants be watered from the top or the bottom? Both methods work. Top or surface watering is easier provided enough room has been left in the pot for water. Use a sturdy watering can with a long spout and a strong handle. Pots filled to the top with soil are hard to water by the surface method. Pots sitting in saucers can be easily watered from the bottom. Regardless of the watering method used, give consideration to the type of plant, the weather and the plant itself. It might be in a resting period.

## Training

Some plants require special training to grow into a desired shape. There are several ways to do this.

Pruning can help shape the plant and make stronger flowers. A sharp knife or pruning shears are used to cut back the branches. Plants such as geraniums and begonias are pruned when transplanted. Prune a plant to leave a bud directly below the cut.

Pinching is done to make the side shoots develop producing a branching, bushier plant. The tip of a growing shoot is removed, usually by rolling it out with the fingers.

Tying plants to grow on a special support is referred to as training. You can make or buy such supports. Philodendron is usually trained to cover a support such as a piece of bark. Aerial roots of the philodendron plant will attach themselves to any rough material.



## Rest Periods

When active growth stops, plants are said to be "resting". In some plants this is seen easily; others are not so easily seen.

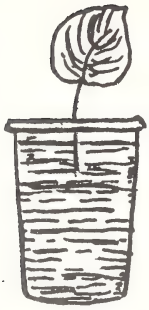
A resting period comes after a period of active growth which may be long or short. Don't water the plant so often at this time and don't give any fertilizer. The drying-off process should be gradual and should stop when the leaves are yellow and limp. Some plants will almost dry down completely. After the blooms have died, they should be removed, but the foliage should be kept growing since it is making food for next year's bloom.

## Propagation

It can be fun to start more plants from those you are already growing. Most plants are started or propagated by leaf or stem cuttings. A leaf or shoot of one of your plants can be used,

To start a leaf cutting, break or cut off a single leaf and root it in sand or water. You can use this method to grow more African violets, Sansevieria (snake plants) and pickaback plants.





*Glass of water with Africar violet leaf stuck through a piece of cardboard.*



*African violet leaf cutting in sand.*



*African violet leaf rooted in pot of soil.*

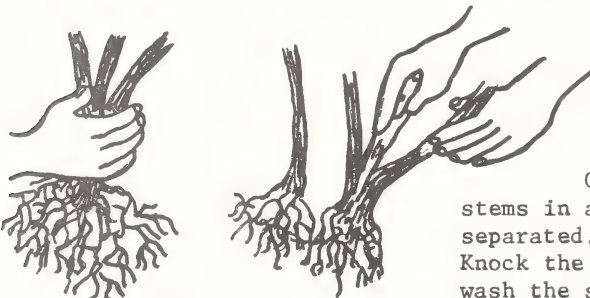
When a shoot is cut from a plant it is called stem cutting. Use a sharp knife to cut the stem. Now, place the stem in sand, vermiculite, perlite or water until it roots. You can take stem cuttings from a geranium, begonia, coleus, philodendron or Christmas cactus.

Leaf and stem cuttings take at least two or three weeks to root. Move the cutting to a pot when the roots are about an inch long. (Don't dig up the cuttings every day to see if they have rooted!)

Some plants produce runners, that is, a small plant on the end of a long shoot. A pickaback plant sends out runners that can be easily rooted. Using a hairpin to hold down the runner, stick part of the runner in a pot of soil. After it roots, cut off the runner and you have another plant.

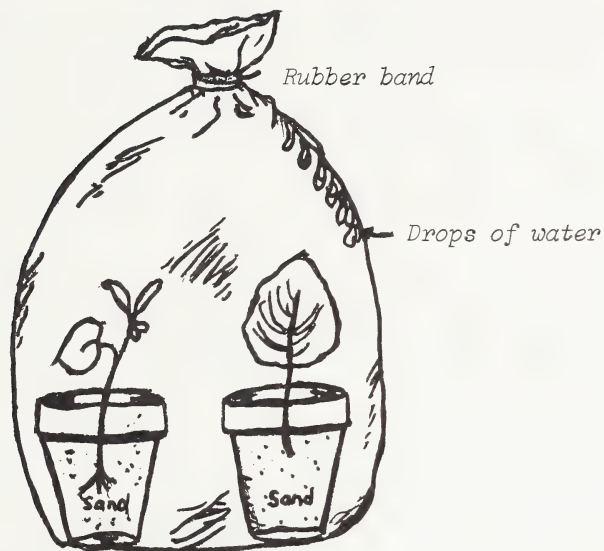


*Pickaback plant showing runner and hairpin holding it in place.*



Old plants may have two or three stems in a pot and they have to be separated. This is called division. Knock the plant out of the pot and gently wash the soil away from the roots. You must use a sharp knife to cut through the stem and roots, giving you several new plants. Repot the pieces and water them. New roots will grow out in a short time.

If the cuttings get too dry, they may die. A good way to keep cuttings from drying out is to fill a small flower pot with sand, put in the cutting, water it and then put the pot and cutting in a plastic balloon and tie it shut at the top. The plastic bag will prevent water loss. In a couple of days, you will notice drops of water forming on the inside of the bag. They run down the edges and help keep the air in the bag moist. Leave the pot in the plastic bag until you see a new plant coming up or until the cutting starts growing new leaves.



*Cuttings in plastic bag. Left, stem cutting of philodendron; right, leaf cutting of African violet.*

Another similar method of propagating house plants uses a large plastic bag filled with perlite or vermiculite. Fill the bag with perlite to a depth of five inches and fold the sides of the bag down. Moisten the perlite then place the cuttings in it and press it firmly around them. Leave the plastic bag open in an area that is well lit, but not in direct sunlight. Be sure to keep the perlite moist.

## ALL ABOUT HOUSE PLANTS

### Flowering Plants

#### African violet (*Saintpaulia ionantha*)

Strange as it seems, the African violet is not a violet, but is related to the gloxinia. The blossoms can be white, pink, purple, or blue.

African violets will grow anywhere in the home as long as the temperature does not drop below 60°. If they are grown in a south window a thin curtain should protect them from the hot sunshine.

Keep your African violets constantly moist at the roots. If you water from the top and the plants sit in the sunshine, be careful not to splash cold water on the leaves. If you do, the leaves may develop "ring spot", which doesn't hurt the plant, but is unattractive.

In their native land African violets grow at the foot of waterfalls. They are constantly being sprayed and splashed with water. You should occasionally put the plants in the bathtub and turn the shower on them or use a fine spray syringe to gently wash the dust off the leaves.

This is one house plant that should not be put outdoors in the summer. It may stop blooming, but does not require a resting period.

To propagate, use leaf cuttings or divide the plant if several are in one pot. It takes about four months for it to bloom from a leaf cutting. Leaf cuttings may be rooted in a pot or a glass of water.

#### Christmas cactus (*Zygocactus truncatus*)

The Christmas cactus blooms around Christmas and will continue flowering until Easter. The branches are glossy, flat and leaflike. The flowers are about 2½ inches long and range in color from pink to red. The blooms are on the tops of the branches.

Keep the plants in an east or west window. Shade them during the summer from the bright sunshine. During the flowering period, water the plants moderately until the new shoots start growing. Water the plant most after flowering to late summer.

Flower buds may drop and this can be caused by too much or too little water, cold drafts on the plant, gas in the air, or poor light. A plant may be kept in the same pot for several years.

To propagate, take a piece of branch two or three segments long and root in a pot of sand.



### Geranium (*Pelargonium hortorum*)

This is the common geranium. It grows well and flowers with little attention. Plants should be grown in a south window since they need lots of sunshine. The flowers are single or double and range in color from red to white.

Plants may become tall and leggy as the lower leaves drop off. If the plants become too tall, make some stem cuttings. Take a shoot off the mother plant and root it in a pot or a glass of water. Pot it after the roots form. When three or four new leaves have formed, pinch out the top. Pinching will cause the plant to branch and become bushy.

Geraniums can be planted outside in flower beds. If you keep yours outside, take cuttings off the outside plant in August and start new plants for the fall. Your winter plants will be nicer if you do this.

### Begonia (*Begonia semperflorens*)

There are over a thousand kinds of begonias, but the house plant variety is the wax begonia or fibrous rooted begonia. The plants have almost round, waxy leaves and fleshy stems. They bloom all the time. The flowers are small and range from cherry red to shades of pink and white.

Begonias grow well under most home conditions, prefer full light in the winter, but need shade from the bright summer sunshine. This plant is used as a bedding plant outdoors in some parks.

To propagate, use stem cuttings or divide the plant when it is too big for the pot.

### Non-Flowering Plants

#### Coleus (*Coleus blumei*)

Coleus is one of the easiest house plants to grow and is very popular. It is grown for its brilliant coloring and velvety-looking leaves. Mature plants will bloom, but the flowers are small.

Coleus plants like warmth with lots of light. During the winter the plants may become leggy and unattractive, but there is nothing you can do about it. Keep the plants watered well. Coleus can be grown in water; just feed it occasionally.

To propagate, use stem cuttings and root them in pots of water. After they are rooted, pot them and keep them in the window that has most sunlight.

Philodendron (*Philodendron cordatum*)

There are many types of philodendron, but the heart-leaf type is the most popular. It is one of the easiest house plants to grow and one that should be grown in a shaded location. The heart-leaf philodendron can be grown as a climbing vine or a trailing vine.

The soil should be kept moist, but not waterlogged. When the shoots get too long, they can be trimmed off and rooted.

To propagate, use a stem cutting four to six inches long and root it in sand or water. Pot the cutting after it roots.

Picka-Back Plant (*Tolmiea menziesii*)

This plant is grown for its interesting foliage, and called picka-back because little plants develop at the tip of the leaf stalk. These little plants in turn may produce smaller plantlets. The plants may have green flowers that are not particularly pretty. They should be watered freely and shaded from the bright sunshine.

To propagate, pot leaves with small plantlets in small flower pots. The leaves can also be rooted in a glass of water. Mature plants will grow in water or soil.

Sansevieria (*Sansevieria zeylanica*)

The common name for this is snake plant or Bowstring hemp plant. The leaves are stiff, upright and strawlike and may grow three feet high. One variety has a yellow band around the edge of the leaves (*Sansevieria laurentii*).

*Sansevieria* is a very tough plant and is sometimes grown in dark corners of movie lobbies. It requires a cool temperature and may be grown in the same pot for several years. The plant should be kept on the dry side during the winter; don't overwater it.

To propagate, use leaf cuttings about three inches long and insert in sand. Division must be used to propagate the yellow-leafed variety. This variety will come up green colored if propagated by leaf cuttings.

## Common Troubles Of House Plants

### African violet

*Mealybug* - round, white, soft, cottony insect that sucks the plant sap. To control, wrap cotton on a toothpick and dip in alcohol; gently touch each insect. Washing insects off leaves may help.

*Mites* - leaves in the center become stunted and deformed; caused by cyclamen mite. To control, wash the plant with a syringe; Kelthane can be used.



*Spot of leaves* - ring type spots on leaves; caused by cold water splashed on the leaf while the plant is in the sunshine. To control, keep the leaves dry and have the plant in the bright sunshine when watering it. Don't use water the same temperature as the air.

### Begonia

*Mealybug* - see African violet.

*Aphids* - small, soft-bodied insects usually green colored. To control, spray (see section following).

*Leaf nematodes* - rust areas on leaves; leaves usually curl up and drop. To control, keep plants separated; don't wet foliage.

*Leaf spot* - bacteria cause a water-soaked spot on leaf. To control, remove the leaf; keep foliage dry.

*Leaf drop* - foliage drops if soil is too wet, air is too hot and dry, or if plant is in a draft. Gas can also cause leaf drop.

### Coleus

*Mealybug* - see African violet.

### Geranium

*White fly* - small four-winged white insect. To control, spray (see section following).

*Mealybug* - see African violet.

*Red spider* - small, reddish insect, very hard to see; usually on the underside of the leaf. To control, wash leaves (see section following).

Cactus

*Mealybug* - see African violet.

Philodendron

*Dying leaves* - can be root injury; may be overwatered or air too dry.

Picka-back plant

*Mealybug* - see African violet.

Sansevieria

*Leaf spot* - sunken areas on leaves. To control, remove leaves.

Insect Control On House Plants

There are several companies that have insecticides in handy-to-use containers that will kill most insects that get on house plants. Pyrethrim and Rotenone with Pyseronyl Butoxide are safe and excellent to use for insect control of house plants. Follow directions on the containers at all times and be sure to keep chemicals out of reach of children.



List Of Flowering House Plants

List Of Non-Flowering House Plants

- (others may be chosen for project, if so desired) -

African Violet  
Hibiscus  
Hydrangea  
Common Geranium  
Geranium-Martha Washington  
Ivy Leafed  
Impatiens  
Fibrous-Rooted Begonia  
Christmas Cactus

Philodendron  
Dieffenbachia (poisonous)  
Sanseveria  
Wandering Jew  
Aluminum Plant

Asparagus Fern  
Ferns  
Picka-back  
Coleus

Cacti and Succulents  
Pepperomia  
Velvet Plant

Miniature Fruit Trees  
- lemon  
- orange  
- grapefruit  
- Jerusalem cherry

- More difficult to grow -

Oleander (*very poisonous  
leaves*)  
Primula (*some people are  
allergic*)  
Azalea  
Poinsetta

- Refer to section dealing with house plants in Alberta Horticultural Guide prepared by Alberta Horticultural Advisory Committee.

-----  
HOUSE PLANT RECORD

Name: \_\_\_\_\_

Date Received: \_\_\_\_\_

State: \_\_\_\_\_  
(mature, cutting, etc.)

Appearance: \_\_\_\_\_  
(describe leaves, color of flower, pressed samples, etc.)

Care: \_\_\_\_\_

Type of Propagation: \_\_\_\_\_  
(leaf cuttings, etc.)



# Unit II

*Indoor gardens, dish gardens, & Terrariums*







## INDOOR BULBS, DISH GARDENS AND TERRARIUMS

Where can you have so much fun for so little effort and cost as in growing flowers from bulbs indoors or in making a dish garden or terrarium?

Bulbs grow fast and give you beautiful flowers at a time when the outside world is drab. Dish gardens and terrariums are easy to build and will give you enjoyment in creating designs and scenes. Once constructed, they will provide many months of pleasure with little care.

### INDOOR BULBS

There are two general types of indoor bulbs of bulb-like plants. The fall-planted type, like tulips and daffodils; flower in winter or winter-planted types; flower in spring and summer.

In this unit, you will learn how to identify and grow bulbs and bulbous plants indoors and to show others how to grow them. You will also have plants to exhibit at meetings, etc.



### Fall-Planted Bulbs

Materials - Regardless of which bulbs you choose to grow, you will need certain materials:

Pots for planting - approximately five to six inches in diameter, or bulb pans which resemble flower pots, but are broader and not as deep.

Soil mixtures of garden soil, sand and organic matter.  
Gravel or small stones for drainage.

### Tender bulbs

Paper white narcissus, tulip, hyacinth, crocus and other bulbs can be forced into bloom in the house during winter. Forcing simply means hurrying the plants into flower by placing them in warm temperature. Paper white and tender narcissus can be flowered in water. Other bulbs flower best in soil. You may wish to read publication Agdex No. 281/20, Spring Flowering Bulbs for Indoor Forcing, A.D.D. Pub. 109.

The bulbs commonly known as paper white or tender narcissus are easiest to bring into bloom. These can be in bloom for Thanksgiving or Christmas. They cannot stand frost, do not grow outdoors and are worthless after flowering.

Three varieties of tender narcissi are:

*Paper White* - white

*Chinese Sacred Lily* - white with a yellow center

*Grand Soleil d'Or* - yellow with orange-yellow cup

Buy large, plump bulbs from your seed store in October. Select a dish or shallow bowl large enough to hold from three to five bulbs. Fill with pebbles, sand, gravel, pearl chips or similar material to within 1/2 inch of the top. Plant the bulbs so that the old roots on the bulbs are covered about 1/2 inch. Add water until it comes up even with the top of the pebbles. Maintain this water level during the forcing period. Put the container immediately in a sunny window. They will flower in three to five weeks.



### Hardy bulbs

Tulips, narcissus, hyacinths, crocuses and other hardy bulbs flower best in soil. Bulbs potted in September or October will flower in the house around January and February.

Varieties for forcing:

<u>Tulips</u>	<u>Hyacinths</u>	<u>Daffodils</u>
White Hawk	L'Innocence	King Alfred
Prince of Austria	Pink Pearl	Carlton
White Sail	Bismark	Early Perfection
Weber	City of Haarlem	Rembrandt
Kanas	Jan Oas	Golden Harvest
Red Pitt	Lady Derby	Spring Glory
Wm. Copeland	La Victoire	Victoria
Wm. Pitt		
Utopia		
Bartigon		

## Minor bulbs

Snow drops and crocuses can be forced the same way as tulips and daffodils.

### Potting

Pot the bulbs in special bulb pans measuring at least six inches wide or use regular flower pots four to six inches wide or any container having good drainage. First, place several pieces of broken pots, stones, or gravel in the bottom of the pot for drainage. If your garden soil is sandy, use it as it is. However, if your garden soil is heavy with clay, mix 1/3 sand with the garden soil. Fill the pot about 1/4 full with soil and place as many bulbs as will fit in each pot, leaving 1/2 inch between each bulb. Don't put different varieties or types of bulbs in the same pot. Be sure they are right side up. Cover them up with soil so that the top of the bulb is about 1/2 inch below the soil line. Leave 1/2 inch between the soil line and the rim of the pot for watering. Soak thoroughly with water immediately after flowering. Put a label in each pot with the name and variety of bulb.



*Cross-section shows bulbs planted together in bulb pans.*

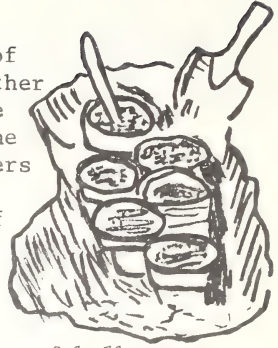


*Proper planting depth*

### Rooting

The best temperature for growing these bulbs is 40°F for rooting (8 + weeks), 50°F for growth of stems or leaves for three weeks, and 60°F for flower production. We cannot expect to have these exact conditions, but we can come close. The bulbs must be well rooted before they are brought into the house. There are many different ways of storing the pots. Here are two easy methods.

The pit - Pick a well-drained spot in the cool part of your property, the north side of a garage, tool shed or other building is often suitable. Dig a pit or trench about one foot deep and fill in about three inches of drainage on the bottom. This drainage material may be sand, gravel, cinders or any other similar material. Put the pots as close as possible and then put a thick layer of peat moss on top of each pot. Then fill the soil back in. Put a few inches of straw on top after the ground freezes.



*Pots of bulbs are buried in pit or trench and covered with shavings or peat moss to store for rooting.*



*Apple box or other wood container can be used to store pots of bulbs for rooting.*

Apple box or similar container - An easier method for 4-H boys and girls who have only a few pots of bulbs is to put them in an apple box or any similar wood container. Put in a couple of inches of drainage material in the bottom. Pack as many pots as possible in the box and surround each one with moist peat moss, leaves or similar material. The peat moss must be moist to the top. Place the box in a cool spot such as a cold storage unit where the temperature is about 40°F. Other locations where the box can be stored to force rooting are a garage, barn, etc. Be sure the bulbs do not freeze or get too warm. It may be necessary to cover the box with straw or shavings to prevent freezing if the temperature falls below 40°F.

### Forcing Into Bloom

In five to eight weeks after planting, the bulbs should be well rooted and ready to force into bloom. Be sure that the bottom of the flower pot is a mass of roots.



*Well-rooted bulbs, ready for forcing.*



*Plants with top growth, ready for direct light.*

When the bulbs are first brought into the warmth, put them in as cool a place as you can find. A temperature of 40 to 50°F is best. Perhaps you have a sunporch or other area which is cooler than the rest of the house. Keep the plants out of direct sunlight for about two weeks. After the bulbs have made a few inches of top growth, bring them into full sunlight where the temperature is 65 to 70°F.



Keep the soil moist at all times. Ample supplies of water are especially necessary while the plant is in flower.

*Give flowering  
plants lots of water.*



### Winter-Planted Bulbs

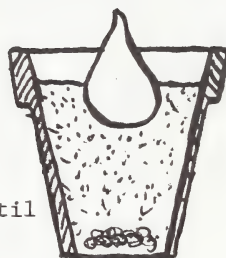
These bulb-like plants started in January or February will flower in late spring and summer. Some of the common types are:

*Amaryllis*  
*Caladium*  
*Gloxinia*  
*Yellow Calla Lilies*

Each of these plants require different growth conditions so they will be considered separately.

#### Amaryllis

1. Into a six-inch pot, put 1/2 inch of drainage material. Add a mixture of 1/3 sand, 1/3 soil (garden loam), and 1/3 peat moss or other organic matter.
2. Place the bulb 1/3 above the soil surface.
3. Water well the first time, but give no more water until the bulb comes out of the bulb neck.
4. Water lightly until the bulb blooms.
5. The flowers usually appear before the leaves grow.
6. After the bulb has flowered, plant it outdoors.
7. Dig up the bulb before frost in October, and store it in a cool, dark place in the cellar until the following January or until the buds show.
8. Bring it into a warm room where it will bloom.



#### Caladium

These plants are grown for their attractive colored leaves. The flowers are insignificant. There are many different varieties which have many colors and different sizes and shapes of leaves.

1. Start in March. Plant in a shallow pot or box.
2. Use a mixture of 1/2 sand and 1/2 leaf mold or peat moss.

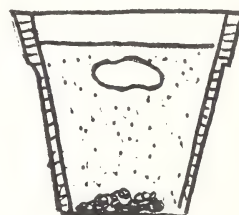


3. Put the bulb in upside down with the roots on top. This will prevent rotting of the growing tip. Cover about 1/2 inches deep. Keep the box or pot in a warm place (80 to 85°F) if possible. A good location is next to a heater or a radiator.
4. As soon as the roots begin to grow, put them in 3-inch flower pots in a mixture of three parts leaf mold or peat moss; one-part garden loam and one-part sand.
5. As soon as the roots have filled the pots (plants are pot bound), repot in five or six-inch pots. Use a soil mixture of two-parts garden loam, two-parts leaf mold or peat moss, and one-part sand.
6. Grow in filtered sunlight (shade from bright sunlight) and water freely. Do not transplant outdoors in the summer.
7. Feed with liquid house plant fertilizer every three weeks.
8. When the leaves begin to fade, gradually reduce water until they are completely dry.
9. Store in the dry soil in the pots or in peat moss under warm, dry conditions until the next season.

### Gloxinia

Bulbs started in January will bloom in June.

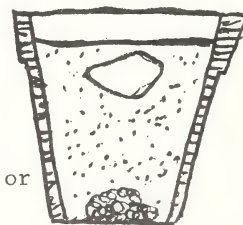
1. Use a five-inch pot with a mixture of 2/3 peat moss or leaf mold and 1/3 garden soil.
2. Plant the bulb about one inch below the surface.
3. Water thoroughly, but do not let the bulb become waterlogged.
4. Let it dry off a month after it has finished flowering and store the tuber in a cellar until next year.



### Yellow calla lilies

Bulbs planted in January will bloom in March.

1. Use bulbs 1½ inches in diameter or larger.
2. Fill a five-inch pot with a mixture of 2/3 leaf mold or peat moss and 1/3 garden soil.
3. Cover the bulb 1/2 inch and set it in a warm place (next to a radiator) and keep it well watered. Keep in bright light.
4. Plant outdoors to finish leaf growth after the frost is past.
5. Dig it up in September and store it in a cool, dry place until next January.



## DISH GARDENS

A dish garden offers you a different way to grow plants in your home. Instead of putting your plants in separate pots, you simply combine several plants in one container to create an interesting plant scene or design. A dish garden is, therefore, a collection of similar plants grown in an open container.

Well-arranged dish gardens can be used to decorate mantles, tables, or other pieces of furniture. They will add new interest and beauty to your home. Although dish gardens are not permanent in the home, and therefore, are worth making. They also may be used as gifts to hospital, shut-ins, and can even be sold. In addition, they are ideal for exhibiting at flower shows, meetings, etc.

Dish gardens are easy to make and will keep attractive for a long time if you plant them right and give them proper care. By following the suggestions in this section, you can enjoy success with dish gardens.



### Kinds Of Dish Gardens

There are several kinds of dish gardens, but the most popular are woodland, field and meadow, desert and tropical. The woodland garden is made up of plants such as wintergreen, ferns, mosses, tree seedlings, and others that are found in the woods. Plants such as hawkweed, wild strawberry and others are used in field and meadow gardens. A desert garden contains cacti and succulents that grow well under hot dry conditions. They last the longest in the home without much replanting. Tropical gardens are composed of slow-growing tropical plants. Probably more homes have tropical gardens than any other kind.

### Materials

To make a dish garden, you will need:

- plants
- container
- soil
- drainage material.

### Plants

First decide on the kind of dish garden you wish to make. Then, select several plants recommended from the list below.

For the tropical and desert garden, use small plants grown in 2¼ or 2½ inch pots. These may be purchased from your local florist or five and ten cent store. Rooted cuttings may be used in tropical gardens, but are not recommended for the desert garden. Handle cacti with gloves and tongs to protect yourself from thorns. The woodland and meadow plants can be collected from the wild, but be sure to collect only those plants permitted by law. Dig out the plants with a ball of soil using a large trowel. Wrap the ball of soil with paper and put the plants in a box. Moisten the soil and leaves with water. Gather a little extra soil for filling in around the roots.

. Select plants of different width, height, shape and leaf pattern to give interest and variety to your garden. Keep the plants in scale with one another and the container by using proper sizes. No one plant should be so tall that it dwarfs all the rest and attracts all the attention to itself. Use plants ranging in height from two inches up to twelve inches. The tallest plant can be three or four times the height or width of the container when planted. In time, the plants will grow larger, but they will not get out of scale if you pinch or prune them back occasionally.

Do not crowd the container. Four or five plants are often enough for small containers and six or eight for larger ones. In general, plants of one group should not be combined with another. You may combine woodland and field and meadow plants, however, since they prefer nearly similar growing conditions, under no circumstances should you combine desert and tropical plants. Tropical plants like moist soil, while cacti eventually will rot in moist soil.

### Containers

You may use any type of container that will hold soil. The ideal container is one which has a drainage hole in the bottom to allow the excess water to escape. Unfortunately, these are not generally sold. A watertight container will be satisfactory, however, if internal drainage is provided and if the soil is porous and not overwatered, metal, plastic or pottery containers are the most popular and are suggested. For metal containers, use bronze, copper or iron. Line metal containers with aluminum foil to prevent corrosion. Plastic containers do not corrode, are less likely to break, and are made in many attractive shapes and colors. Pottery also will not corrode and comes in various colors. Use blue, green or brown containers which blend well with the foliage.

Select any shape of container you prefer. Containers two inches deep are frequently used for dish gardens. Such shallow containers are recommended for the cactus garden since cacti do not require much water. For other types of gardens, use a container at least four inches deep, but not over eight to ten inches deep.



## Soil

The balls of soil collected with the woodland, field and meadow plants will largely fill the container. Use extra soil to fill in around the roots.

Plants for the tropical garden will grow well in a mixture of four-parts garden loam, and one-part peat moss by volume. For the cactus garden, use two-parts sand, one-part loam and one-part peat moss. Fertilizer usually is not added to the soil mixture since a rich soil mixture may stimulate excessive growth and the plants will soon outgrow the containers. Where the loam soil is not too fertile, you may enrich the soil mixture with one level teaspoon of 16-20-0 or similar fertilizer for every two quarts of the soil mixture. The soil should be slightly moist for planting. If very dry, moisten with some water. Mix all soil ingredients thoroughly before planting.

## Drainage

Fine gravel, small pieces of broken flower pots, cinders, coarse sand and 1/4-inch charcoal are good drainage materials. Charcoal is especially good in preventing odors in the water.

## How To Make A Dish Garden

The first step is to gather all your materials and place them on a convenient work table. Steps 1 through 6 should be used as a guide in making various types of dish gardens.

*Step 1 - Gather materials.*

*Step 2 - Add drainage,*

*Step 3 - Make and add soil mixture.*

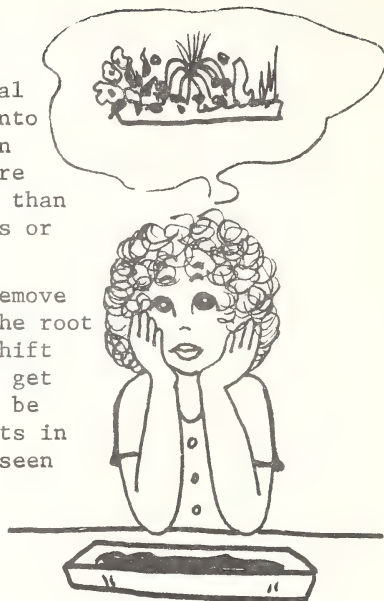
For containers with a drainage hole in the bottom, simply cover the hole with a few pieces of broken flower pot to keep the soil from sifting through the hole. Additional drainage material may be added.

For watertight containers less than three inches deep, no drainage material is necessary. For deeper containers, first put in about 1/4 inch of drainage material in the bottom. Add more if depth allows. Next, add about 1/4 inch of sand to form a barrier between the soil and drainage material. This prevents the soil from sifting into the drainage material. Any soil in the drainage material may become smelly and produce a harmful root condition. Prepare soil mixture and fill the container to the top with soil and firm lightly.

#### *Step 4 - Create a design.*

Before setting in any plants, picture a design. There are many types of designs - right angle, horizontal, circle, vertical, oval or triangle. The plants should be arranged into one of these designs. Keep the arrangement in balance. Do not make it top heavy or have more weight in plants on one side of the container than the other. Look at illustrations in magazines or your flower shop window for ideas.

To arrive at a pleasing design, first, remove the plants from the pots without disturbing the root ball and then set them on top of the soil. Shift the plants from one spot to another until you get the design you like. If the dish garden will be seen from one side only, put the smaller plants in front and the larger in back. If it will be seen from all sides, put the taller plants in the middle, surrounded by the smaller ones.



#### *Step 5 - Planting.*

Remove the plants and begin planting with the larger plants first. With the fingers, scoop holes large enough to receive the cuttings or balls of soil and firm the soil about the roots as you plant. The soilline should be about 1/4 inch down from the rim of the container to allow for watering. Keep the crowns of the plants slightly above the soil line. With larger plants you may have to remove some of the soil ball to fit them into the container. Plant rooted cuttings only deep enough to keep them erect. Finish the planting for all dish gardens except the cactus type by covering the soil with green moss, colored sand or stones, or leaving it natural. A figurine may be added for additional interest. For a desert garden, put about a 1/4-inch layer of sand or small pebbles over the soil to keep the crowns of the plants dry.

#### *Step 6 - Water.*

Immediately after planting, give the soil a good watering, but do not flood the container.

### Care Of The Dish Garden

#### Watering

Too frequent watering may stimulate excessive growth and the plants may soon outgrow the container. Keeping the soil on the dry side will keep the plants small and in scale. Containers with drainage holes should be given enough water each time so that some water drips from the drainage hole.

Tropical, woodland and field and meadow plants like moist, but not soggy soil. A soggy soil does not contain enough oxygen needed for the life of the roots. Water woodland, field and tropical gardens only after the soil gets slightly dry to the touch. Then, apply just enough water to moisten the soil. In some homes, they may be twice a week and others every seven days. Desert dish gardens are kept more on the dry side than other types of dish gardens. They require water usually not more often than every seven to ten days. If you should overwater at any time, place the dish garden carefully on its side until the soil stops draining.



It is good practice with all dish gardens except the desert type, to syringe the surface of the soil and leaves with a fine mist of water once or twice a week. Apply just enough water to dampen the soil surface and to wet the leaves. On some days, misting will provide all the water the plants need. Misting also helps to prevent overwatering.

#### Light and temperature

The woodland and field and meadow dish garden should be placed in bright sun. Keep the tropical garden in shade which is light enough to read by. Keep the woodland and field and meadow garden in a cool place where the night temperature is around 55°F. The cactus garden will thrive in a hot, dry room. The tropical garden plants like a night temperature around 60 to 70°F.

#### Fertilizing

Occasionally, dish gardens need fertilizing. Usually if some fertilizer is added to the soil at planting time, it is enough for several months. If the plants get yellow or stop growing, it does not always mean that they are starving. They may be getting too much or not enough light, water, heat, etc. Be sure these factors of growth are right before you fertilize. Then, apply a very light sprinkling of a complete fertilizer, such as 16-20-0 over the soil surface and water it.

#### Pinching

Some plants branch naturally; others do not and grow leggy. To keep a plant small and in scale with the others in the container, it is sometimes necessary to pinch it or prune it. Pinching is the removal of the growing point of a stem to induce branching. Pinching is done with a sharp knife or your finger nail. To keep a plant small, prune off several inches of its stem.

## Replanting

As mentioned earlier, dish gardens are not permanent arrangements. In time, they may need complete replanting or some plants should be removed because of excessive growth or overcrowding. Do not throw these away, but pot them up to enjoy as single specimens.

## Suggested Plants For Dish Gardens

### Desert Garden

Cactus (many Varieties)	Aloes
Sedums	Snake Plant
Agaves	Crown of Thorns
House Leek	Jades
Echeverias	Kalanchoes
Opuntia	Panda Plant

### Tropical Garden

Philodendron	English Ivy
Grape Ivy	Peperomia
Snake Plant	Pothos
Wandering Jew	Croton
Dracaena	Dracaena
Pteris Fern	Ti Plant
Chinese Evergreen	Pittosporum
Neanthe Bella Palm	

### Field And Meadow Garden

Juniper Seedlings	Mosses
Ferns	Grasses
Wild Strawberry	Crocus

### Woodland Garden

Ferns	Seedling Firs, Pines,
Wintergreen	Hemlock, etc.
	Mosses

This outline should stimulate you to undertake a sizeable piece of work for your age. Your project interest and work should extend over a large portion of the year. Desert and tropical dish gardens are the most popular as it is easier to get a variety of plant material from a florist or greenhouse. Field and meadow or woodland dish gardens are exciting also, however, there is a problem gathering material unless you have easy access to the woodlands.



## TERRARIUMS

A terrarium is a collection of similar plants grown in a glass-enclosed or clear plastic container. It is the only way some moisture-loving plants can be grown in the home. A terrarium resembles a dish garden because we use dish garden plants. It differs, however, in that the plants grow in a very humid atmosphere. We use, therefore, woodland and tropical plants which tolerate a high humidity. We also use some of the succulents, but avoid the cacti since they do not grow well in a moist container.

Terrariums are just as easy and as much fun to make as dish gardens and require little care. Occasionally, you may have to add a few teaspoons of water to replace that which has evaporated. You also may have to prune or remove some plants which are crowding. Otherwise, the plants will care for themselves since they are protected from dust, drafts and temperature changes.

Many fascinating designs are possible. With a variety of materials such as colored rocks, pieces of lichen bark and mosses, one can create interesting miniature scenes. For something different in plant growing, try making a terrarium. The following suggestions will help you.

### Materials

- container
- drainage material
- soil
- plants
- fertilizer
- a piece of flat, velvety woods moss  
to line the inside of the container

### Types Of Terrariums



*Bowl*



*Bottle*



*Brandy Snifter*

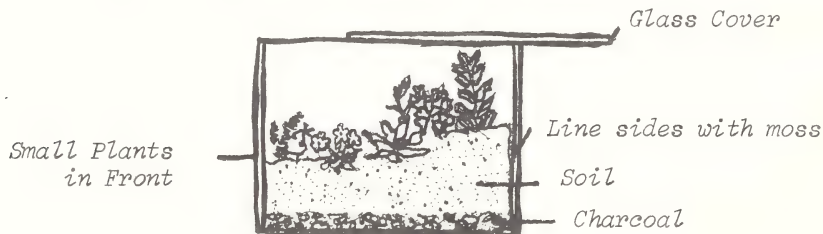


*Aquarium*



## How To Make A Terrarium

Assemble the container, drainage material, soil mixture, plants and woods moss on a convenient work table. If you wish to see the terrarium from all sides, put the taller plants in the center and the smaller plants around. If the terrarium will be seen from one side only, slope the moss and soil upward toward the back of the container. Again, use the larger plants in back and the smaller plants in front.



*Cross-section of a terrarium.*

### Container

Terrariums are made in glass containers. The glass should be clear enough to see through. Cloudy or tinted glass reduces light needed by the plants. Containers range from bowls, bottles, goblets, and brandy snifters to old-fashioned candy jars and aquariums. Select a container that is in scale with the size of the plants. It also should have a removable cover in order to control the moisture in the container.

### Soil

To keep plants small and from outgrowing the container, use a soil mixture that is not too fertile. It also should be porous and well drained so that the roots have enough air. A suitable soil mixture can be made with four-parts fibrous loam and one-part peat moss. To this mixture, add and mix one level teaspoon of 16-20-0 fertilizer for every two quarts of soil mixture. The soil mixture should be slightly moist before planting. Make a ball of soil and then crumble it. If the ball does not fall apart easily, the soil is too moist.

### Drainage

Since the container has no drainage hole, internal drainage should be provided. The drainage material prevents the soil from becoming waterlogged. Small pebbles, pieces of broken pots, coarse sand or ground charcoal are all good drainage materials. Charcoal is especially good in that it prevents odors in the soil.

## Plant Materials

First decide on the type of terrarium you wish to make - woodland or tropical. Make one or the other. Do not combine woodland and tropical plants since they have different cultural requirements. Use small potted plants from 2¼ inch pots or unrooted cuttings which will root in the moist container. Collect the woodland plants from the wild as suggested for dish gardens. Be sure that all plants are absolutely free from disease and insects. Buy the flat velvety woods moss from your florist or collect it in moist shade places in the woods.

### Tropical Plants

English Ivy (in variety)	Ferns in variety	Haworthia
Dwarf Coconut	Draecaena	Philodendron
Peperomia	Ardisia	Echeveria
Cryptanthus	Fittonia	Croton
Strawberry Begonia	Small-leaved Begonias	

### Woodland Plants

Ferns (in variety)	Wintergreen	Wild Strawberry
Violets	Mosses	Seedling Evergreens

## Planting

After having decided on the type of planting, line the sides of the container with the woods moss, putting the green side toward the glass. The moss hides the soil and gives the terrarium a green appearance.

Next, depending on the size of the container, put 1/2 inch to 1 inch of drainage material in the flat bottom part of the container. Do not slope the drainage material up the sides of the container. Then, add soil up to the height of the moss. Before planting, arrange the plants outside of the terrarium to arrive at a pleasing design. With your fingers, scoop out holes large enough to receive the balls of soil or cuttings. Set the plants in and firm the soil gently around the roots. If necessary, prune back large plants or reduce the size of large root balls. Do not crowd the plants or press them against the sides of the container. Do not worry if roots are exposed since they will not dry out in the humid atmosphere. Eventually, they will work themselves into the soil.

Exposed soil may be covered with small rocks, pebbles, or moss brushed clean before using. A small figurine, a piece of shelf fungus or a lichen-covered rock may be added as a focal point if additional interest is needed. Usually the plants are interesting enough in themselves that accessories are not necessary.



*Tools for bottle planting include wire rod, spoon, bamboo tweezers, cotton swab and sprayer.*

## Watering

After planting, moisten the soil lightly with a bulb sprayer. The soil should be moist, but not soggy. Spray off any particles of soil adhering to the leaves or walls of the container.

Finally, clean the glass with a paper tissue and put on the cover. Since some ventilation is necessary to prevent fogging, the cover need not fit tightly. Adjust the cover so there is always a small opening for air movement. You can make a cover out of pliofilm held with cellophane tape or have one made by your local glass cutter. Goblets, jars, brandy glasses, etc., can be effectively covered with Petri dishes.

## Care Of The Terrarium

Keep the terrarium in bright light, but not direct sunlight. A north or northeast window is a good location. The woodland terrarium should be kept in a cooler room than that in which the tropical one is kept.

Water should be applied only when the soil is less than moist and then sparingly. Depending on the temperature and humidity in your home, the terrarium may need only a few teaspoons of water once a month or even less frequently. To determine if water is needed, dig down into the soil with a spoon. If the soil is dry, apply a very small amount of water and recheck the soil the next day. In time, you will be able to tell by the color of the soil if water is needed. The best way to ruin a terrarium is to keep the soil wet. If you should overwater, remove the cover at once and allow the excess water to evaporate.

To water sloping terrariums, tilt the container so that the soil is level and apply water lightly around the margins of the planting.

No additional fertilizer is necessary if it is added to the soil mixture.

Remove dead leaves at once and prune or remove overgrown plants.

INDOOR BULB GROWING RECORD

Name of Plant: \_\_\_\_\_

Description of Bulb, Leaves, Flowers: \_\_\_\_\_

\_\_\_\_\_

Date Potted: \_\_\_\_\_

Date of Blooming: \_\_\_\_\_

Length of Blooming Period: \_\_\_\_\_

Preparation and Care: \_\_\_\_\_

Pressed Samples

DISH GARDEN AND TERRARIUM RECORD

Diagram

Type of Garden (tropical, woodland, etc.): \_\_\_\_\_

Names of Plants Included (pressed samples below): \_\_\_\_\_  
\_\_\_\_\_

Size of Garden: \_\_\_\_\_

Care of Garden: \_\_\_\_\_

Pressed Samples



# Unit III

## Flower Arrangement





## FLOWER ARRANGEMENT

This unit is for 4-H'ers who love flowers and want to learn about arranging them. Such knowledge will help you add cheer and color to your home. There is no mystery about arranging flowers. You do not have to be an expert to enjoy it to the fullest. Don't be afraid to start. After the principles and fundamentals have been mastered, you will have lots of fun. The 4-H slogan is "learn to do by doing". If you do make mistakes, have a good laugh at yourself and keep "doing".

### ARRANGING CAN BE FUN

#### Materials

You will need several types of containers. Pitchers, cups, bowls or tin cans from the kitchen are often satisfactory. Then, of course, there are the conventional vases of all shapes and sizes. See diagrams below for types.



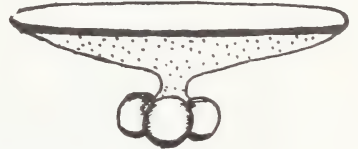
*Flat*



*Tall*



*Round*



*Oblong*

You will need a supply of holders to make the flowers "stay put" in the containers. The holders may be needle point, crushed or folded chicken wire or metal spirals on a base. Many accomplished arrangers use the needle point type which comes in all shapes and sizes and is weighted. See diagrams below.



*Needle Point*



*Crushed or Folded  
Chicken Wire*



*Metal Spirals*

To do a good job of arranging flowers, you will need some modelling clay or floral holders in the containers. Be sure both holder and container are dry or clay will not stick.

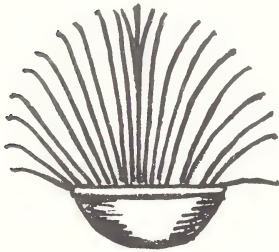
Avoid glass holders because they are difficult to fasten in the container. Either vermiculite or styrofoam makes a good holder for a tall container. Simply fill your container with the material and proceed with the arrangement. Soak the material with water when finished.

A sharp knife or shears for cutting stems is necessary. You will need scissors for other cutting jobs.

As you become more proficient, some soft florist's wire of different diameters will be helpful.

### Mass Arrangements

Three forms of mass arrangements are the circle, oval and triangle. See diagrams.



*Circle*



*Oval*



*Triangle*

All of these mass arrangements can be either formal (bisymmetrical) or informal (asymmetrical). An arrangement is formal if an imaginary line drawn through the center of it divides it into identical halves.

An arrangement is informal if an imaginary line drawn through the center of it divides it into halves that appear different, but are equal in visual weight.

### Fitting Arrangement To Location

Before you expend a lot of time and material making an arrangement, visualize your finished product in the space you have in mind for it. A room needs only one main floral interest.

Never place a tall vertical or triangular arrangement on a mantle. This is the ideal spot for a horizontal arrangement.

Be careful not to make a dining table arrangement so tall that people cannot see and converse across the table. A low mass arrangement is ideal. However, don't use a miniature arrangement on a dining table; a broad expanse of table cloth and many dishes will obscure a miniature arrangement.

Do you really want to please the "queen" of the household (mother, of course) on Mother's Day? Get up early to prepare her breakfast and serve it to her in bed. On the tray, place a well-planned and well-constructed miniature flower arrangement. The odds are that this will get a lot more attention than the usual breakfast.

Flower arrangements and figured wallpaper may clash. You may avoid this by using flowers that have vivid colors, such as red and yellow.

Will the arrangement be seen from above, below or on a level with the eyes? Take all of these into consideration and never place a tall arrangement above the eye level as it tends to carry the eye still higher. Tall arrangements should be placed at eye level.

### Principles Of Flower Arrangement

Now, to get down to actual flower arrangement. Four principles you will be concerned with, are: design, scale, balance and harmony.

#### Design

Design is the plan of what you expect to create from a given number of flowers, a container and some filler or leaves.

#### Scale

Scale simply means selecting flowers, foliage and a container of the appropriate size for blending. Small size flowers, such as California poppies, look silly in an arrangement with large-flowered dahlias. Keeping the size of the flowers in proportion is scale.



*Arrangement not in scale. Feathery leaves and small container do not go with calla lilies.*



*Arrangement in scale in a proper container.*



## Balance

Balance may be a bit more difficult to achieve. It comes only with lots of practice. If an arrangement is appealing to the trained eye and does not appear top heavy or one sided, it has balance. Keeping large and dark-colored flowers at the base of an arrangement helps achieve balance.



*Not Balanced -  
Top Heavy*



*Balanced  
and  
Stable*

## Harmony

Actually, this principle is about 90% common sense. In essence, it means putting the right flowers and colors together to avoid clash. Combine your flowers in keeping with nature's timing. Don't put flowers that bloom naturally in midsummer with spring-flowering bulbs or shrubs, such as quince, forsythia, daffodils or crocus. Chrysanthemums are the exception; they are appropriate any time.

When you master these four basic principles, you are ready to start arranging flowers. As you become more expert in flower arrangement, you will find that rhythm, focus, accent, repetition and unity are also important.

## Steps In Arrangement

Now it is time for you to make an arrangement. Probably you will falter at first. Keep trying and you will soon acquire the knack.

First, draw a mental plan and then select the right container, holder, flowers and foliage for the job.

Next, place a quantity of floral or modelling clay in the container and press the holder into it. Be sure both the holder and container are dry. See diagram.



Now establish the main lines of your arrangement. These lines will determine what the finished product will look like; therefore, be sure they are right. The tallest flower or branch will be placed first. Hold it in different spots to help you select the right one before anchoring it. It is vitally important that this branch or flower be absolutely firm. The correct height for this stem is  $1\frac{1}{2}$  times that of an upright container or  $1\frac{1}{2}$  times the length of a low, flat container. See diagram.



*Finished arrangement.  
Largest and deepest-  
colored flower used  
as focal point.*

*Placement of main  
lines. Smallest  
bloom used at the  
top of arrange-  
ment and well  
anchored in  
holder.*



Use flowers and foliage with stems of different lengths to fill in your arrangement. Never crowd the blooms. Let each one show. See diagram above.

Use light-colored flowers, buds and partly opened blooms at the top. Use large, open and dark-colored flowers at the bottom for a focal point. Never cross stems. This gives the appearance of "X marks the spot". See diagram.



*Crossed stems distract the  
observer's attention from the  
main outline of the arrangement.*

## Flowers You Can Use

In our busy world, we often overlook the wonders nature provides. Many wild flowers lend themselves to beautiful flower arrangements. Be careful not to cut conservation-protected flowers. Also, don't crowd too many varieties into one arrangement.

Use wild flowers for practice, but use cultivated blooms in shows. Be sure to plan before you plant. This will provide you with the varieties that look best in arrangements and keep the longest after being arranged. Flowers from your local florist may be used in arrangements, but you will probably want to use your own.

Dried seed pods of numerous plants make fine material to supplement your arrangements of dried flowers. Some of these are dock, honesty (money plant), iris, milkweed and poppy. The last three are seed pods and should be cut when green.

Many of the grasses, especially when dry, can be used in arrangements. Some of these are barley, cattail, corn tassels, marsh grass, peppergrass and brome grass.

## Demonstrations And Hints

### Suggested demonstrations

A demonstration will help you show someone else how to do something you have learned. Don't be bashful. Select a short, catchy title. Above all, get plenty of action into your demonstration while you talk. Here are a few suggested demonstrations. You will want to develop others. Use your own topics and titles.

*ideal conditions* - Show how to treat flowers with hot water and store them for longer life.

*posy anchors* - Show the different types of holders and where and how to use each of them.

*variety - spice of life* - Show how different varieties of flowers can be used to make a given type of arrangement.

*from scratch to beauty* - Show how to start with all the necessary materials and make a complete arrangement.

*moisture out - longevity in* - Show how to dry flowers.

## Helpful hints

1. Be sure both holder and container are dry when using clay.
2. Place vertical branch or flower and two-side flowers first when starting an arrangement.
3. Don't use the following flowers in arrangements; they do not stay fresh very long.

*Nicotiana (tobacco plant)*

*Four o'clock family*

*Flax*

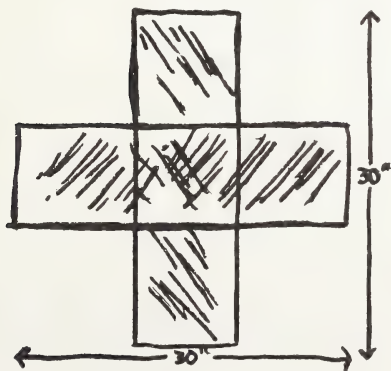
*Wake Robin (trillium)*

*Balsam (lady slipper)*

*Moonflower*

*Phlox*

4. Harden flowers by placing them in water that has been heated to 100°F. (about bath temperature). Let the water cool naturally. Warm water moves through the stems easier than cold.
5. Cut flowers the night before they are needed and place them in warm water.
6. Needle-point holders can be used in most containers.
7. Chicken wire is very adaptable for relatively shallow containers with broad base.
8. Vermiculite or styrofoam are used to the best advantage in tall, narrow containers.
9. When entering an arrangement in a show, transportation is always a problem. It is best to carry your unassembled material to the show site and make your flower arrangement there. If this is impossible, the following suggestions will help you.
  - (a) Use two pieces of saran wrap, plastic or cellophane 2½ times the height of your arrangement. Place one on the other at right angles and set the arrangement in the center. Draw the ends up over the top, fold them down snugly to the flowers and pin or staple them together. See diagrams.



(b) Another method is to select a suitable box and cut a hole in it for the neck of the flower container. Fill the box with wadded newspapers to hold the container in place. See diagram.



10. Always wash the container with soap and water before using. This helps prevent growth of algae and other stem-clogging organisms.
11. Cut stems on an angle to provide larger water-absorbing areas.
12. Remove all foliage below water level.
13. Do not place flower arrangements near radiators or in a draft.
14. Add a commercial flower food such as Bloomlife or Florallife to the water to give your arrangement a longer life.
15. Just as you do in all other 4-H projects, keep accurate records of your flower arrangement efforts.

You have learned that arranging flowers is no big mystery. It's lots of fun. Don't stop here. You have merely begun. Put on your thinking cap, use your imagination and see if you can create entirely new arrangements.

Don't forget the four basic and most important principles of flower arranging:

*Design*  
*Scale*  
*Balance*  
*Harmony.*



FLOWER ARRANGEMENT RECORD

Type of Arrangement: \_\_\_\_\_

Type of Flowers: \_\_\_\_\_

Type of Container: \_\_\_\_\_

Source of Flowers: \_\_\_\_\_

Colors of Description: \_\_\_\_\_

Where Arrangement Was Used: \_\_\_\_\_

Diagram or Photo



# Unit IV

Corsages, Winter Bouquets  
&  
Christmas Greens





## CORSAGES, WINTER BOUQUETS AND CHRISTMAS GREENS

Brighten yourself and your home with easy-to-make corsages, winter bouquets and Christmas greens.

Corsages can be made at any time of year. Spring bulbs like daffodils are easy to use. Summer annual flowers such as tiny zinnias are attractive. In the fall, the versatile chrysanthemum makes a beautiful corsage as does brightly colored foliage. For dramatic effects in winter, try making a corsage with evergreens.

In fall and winter, you will also be proud to show your home to friends and neighbours when it is decorated with pleasing winter bouquets and attractive Christmas greens you've made yourself.

Try making corsages, winter bouquets and Christmas greens. This project encourages you to use your imagination as you learn to assemble these attractive arrangements.

### THE BASICS

#### Requirements

1. Assemble at least one corsage.
2. Exhibit a corsage at a flower show, achievement day or club meeting.
3. Assemble at least one winter bouquet, choosing from the three different styles.
4. Exhibit a winter bouquet at a flower show, achievement day or club meeting.
5. Assemble at least one table centerpiece of Christmas greens and one other decoration.
6. Give a demonstration at a club meeting, demonstration contest or similar activity on making corsages, winter bouquets or Christmas decorations.
7. Write a story of your project.





## Materials

You will need flowers, wire, foliage and tape. You may also need ribbon. A wire cutter and scissors are also needed.

### Wire

Wire is sold according to size. The larger the number of the wire, the finer it is. For corsage making, three good sizes of wire are:

*Size 32* - a fine wire for small or fragile flowers. Florets of gladiolus and delphinium need this fine wire.

*Size 28* - a medium wire for most of the daisy-type flowers.

*Size 22* - a heavy wire used with heavy flowers such as roses, iris and peonies.

If this wire is not available from your florist, you may find spools or windings of it at five and ten cent stores or at hardware stores.

### Foliage

Stiff green foliage, useful as a backing for your corsages can come from Rhododendron, English Ivy, Mountain Laurel, Honeysuckle, Juniper, Holly, or Dwarf Burning Bush.

### Tape

Floral tape to cover the wired stems is very handy. Some commercial florists may sell you this tape. You can use colored cellophane tape if you like. Tinfoil also is a good finishing material.

### Ribbon

A bow of ribbon often helps to finish off a corsage. A bow is made from a yard of 3/4 or 1/2 inch wide ribbon of a color appropriate for the flowers used.

### Flowers

Because a corsage is made from fresh flowers, use only flowers that last three hours or longer. Some flowers wilt quickly out of water and cannot be used in corsages. The following lists of flowers can be used:

Snowdrops  
Marigold  
Tulips  
Lemon Lilies  
Chrysanthemums  
Dwarf Iris

Grape Hyacinths  
Zinnias  
Geraniums  
Pinks  
Asters  
Shasta Daisy

Primrose  
Gladiolus  
Iris  
Roses  
Narcissus  
Carnations

Peonies  
English Daisy  
Delphinium  
Sweet Peas  
Lily of the Valley  
Gaillardia

## CORSAGES

### Wiring Flowers

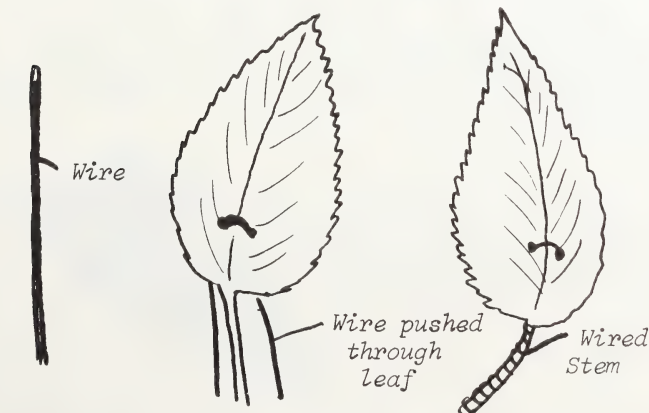
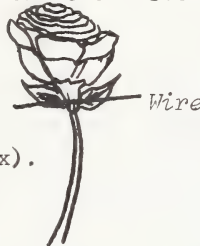
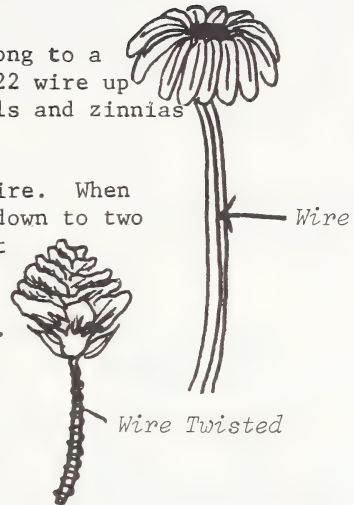
Flowers with hollow stems can be made strong to a fixed position in a corsage by pushing a size 22 wire up through the stem and into the flower. Daffodils and zinnias are treated this way.

Many times, large stems are replaced by wire. When wiring roses, use size 22 wire. Cut the stem down to two inches. Run a wire through the hard green part under the petals. Bend the wire down on both sides of the green part and twist one of the wires around the other wire and the short stem.

Carnations can be wired this way too, using size 28 wire. Carnations can be made larger and more fluffy by removing the green casing (calyx).

Flowers with thin, stiff stems can be wired by running a size 28 wire along the stem. Push the wire through the flower making a small hook. Then, pull the hook into the petals and wind the wire around the stem. Small flowered chrysanthemums are sometimes wired this way.

To wire a gladiolus floret, wrap the base of the floret with colored tape to prevent crushing the floret. Gladiolus can be built into a "glamellia" by opening the floret and removing the stamens and pistil. Add a bud for the center. For a stiffer center, run a size 28 wire up into the base of the bud. Wrap the opened floret around the bud. Build up the wanted size by adding more opened flowers. Run three or four fine wires through the assembled "glamellia". Bend these back and wrap them around each other lightly. Wrap with tape.



### Wiring Foliage

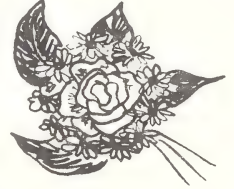
Make a hairpin of size 28 wire (1). Push it through the leaf one inch above the lower edge (2). Extend one of the ends of the wire along the stem. Wind the other wire around the stem and wire (3).

## Making A Bow

You will need about three feet of ribbon for a bow. Holding a piece of ribbon between your thumb and index finger, make several loops above and below your fingers. Pinch each loop between your fingers as it is made. Place the center of a one-foot piece of size 28 wire on the spot where you pinch the loops. Pull the wire around the ribbon and twist it together tightly at this point two or three times. Use the free ends of wire to fasten the bow to the corsage.

## Types Of Corsages

There are three types of corsages: - *Cluster or Nosegay*  
*Spray*  
*Individual Flower.*



### Cluster or nosegay

A cluster of nosegay corsage is made up of flowers grouped in a mass. A colonial bouquet is assembled by starting with one flower in the center, such as a rose. Other flowers are worked around the center in a circle until the size wanted is reached.

The other type of cluster corsage is made by gathering one type of flower into a ball-like mass. This is often done with sweet peas or violets.

The sweet pea or violet corsage does not require separate wiring of individual flowers as the flowers are tightly packed and support each other. A backing of stiff, green leaves adds more support. A wrapping of aluminum foil creates a good finish for a cluster corsage.

### Spray

Spray corsages are individual flowers arranged in a loose group. Wired stems are needed as the wire holds the flower in the position you place it.

Roses, daisies, iris, chrysanthemums and most round corsage flowers can be treated this way. After arranging the flowers the way you want them, add wired foliage to form a backing. Secure the whole corsage with a piece of wire by wrapping it tightly around the other wires; binding them together.

### Individual flower

The individual flower corsage is usually made of one large flower such as peony, tulip, iris, lily, etc. A wired flower and flower bud are generally used, backed by two or three leaves. The leaves accent the beauty of the bloom.



## WINTER BOUQUETS

Winter bouquets are arranged or composed of dried flowers, weeds, grasses and other plant material. Driftwood, stones and artificial material such as figurines and small animals are often used in winter bouquets. Many trees, shrubs and wild plants provide excellent material.

### Plant Materials

There are many excellent plant materials available for winter bouquets, not only from your flower garden, but also from the woods and fields. Gather these plants in the summer and fall and dry carefully. Here are some of the garden flowers that may be dried.

<i>Strawflowers</i>	<i>Celosia</i>	<i>Artemisia</i>	<i>Canna foliage</i>
<i>Hydrangea</i>	<i>Globe Amaranth</i>	<i>Gourds</i>	<i>Swan River Everlasting</i>
<i>Peonies</i>	<i>Lunaria or Honesty</i>		

#### Seed pods of:

<i>Castor Bean</i>	<i>Rose Hips</i>	<i>Curled Cock</i>	<i>Globe Thistle</i>
<i>Oriental Poppy</i>	<i>Tree Leaves</i>	<i>Field Crop Grains</i> <i>(oats is difficult)</i>	

#### Tree and shrub branches:

<i>Dogwood</i>	<i>Viburnum</i>	<i>Hawthorn</i>	<i>Cottoneaster</i>
<i>Mountain Ash</i>	<i>Euonymous</i>	<i>Flowering Plum</i>	<i>Virginia Creeper</i>
<i>Birch</i>	<i>Juniper roots</i>	<i>and many others</i>	

#### Wild plants from woods and fields, including:

<i>Cattails</i>	<i>Milkweed</i>	<i>Bittersweet</i>	<i>Yarrow</i>
<i>Thistles</i>	<i>Sedge</i>	<i>Spike grass</i>	<i>Evergreens</i>
<i>Cones</i>	<i>Fungi on decaying</i> <i>trees</i>		

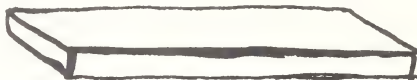
A walk through the woods, gardens or fields may give you many other ideas. BEWARE of the gray fruits of poison ivy.

## Containers

Winter bouquets may be placed in almost any container used for flower arrangements. Low bowls of neutral color are the most suitable. Arrangements using driftwood often have no container, but use a base. There are many other things that can serve as a base; a flat wooden tray or pottery planter will do. Bases may be easily made from quarter-inch masonite. Cut bases in ovals, circles, rectangles or squares. They can be painted with spray lacquer or brush-on enamel. The best colors are gray, black or off-white.



*Bowls are excellent containers for winter bouquets*



*Thin, flat bases cut in various shapes also may be used for winter bouquets.*

## Holders

Needle point holders are best. Modelling clay is needed to secure the holder to the container or base and may also be used to hide the holder. Sometimes plaster of Paris or patching plaster may be used in place of a holder in a low bowl. This is mixed with water and put into the bowl about  $1\frac{1}{2}$  inches deep. The material is inserted when the plaster has started to harden. Sometimes it is difficult to get the plaster out of the container.

## Other Materials

Other materials that you may find useful in making your winter bouquet are driftwood, stones, small figures of animals, Spanish moss and wire.

## Drying Plant Materials

In order that flowers may retain their color, they must be picked while fresh - preferably just as they open.

Grasses, grains and flowers such as Everlasting, are fastened together in bundles and hung head down in a dry place. Seed pods can be stored in boxes until ready for use. Delicate foliage should be arranged before it is completely dry.



## Making The Arrangement

Principles of flower arrangement are used in making winter bouquets (See Unit III). Line arrangements are easier and usually more effective for winter bouquets than mass arrangements. Here are some general rules to follow.

*First*, decide where the arrangement will be used. This will determine its size.

*Next*, decide what will be the main object in the arrangement and what other materials will be used. Perhaps the main object will be a rock, a piece of wood, a group of grasses or a figure. The main object will dominate the arrangement. Keep the arrangement simple with one object standing out more than the others.

As in all flower arrangements, use different heights and different amounts of material. Perhaps one of the most important rules is to add an accent. This can be a small piece of stone, wood, a figure or a bit of bright-colored foliage or any number of different types of plant materials. This contrast adds much to the arrangement. Winter bouquets are often dull, but if an accent is used they immediately come to life.

## CHRISTMAS GREENS

There are many beautiful Christmas decorations that can easily be made at home. In this section, you will learn to make two of the following Christmas decorations:

*Table Centerpiece*  
*Wreath*  
*Door Swag*  
*Christmas Corsage.*

There are many other Christmas decorations that you can make such as Christmas bouquets, mantle decorations, festoons, evergreen balls and many others.



## Materials

In addition to the greens, you should have the following materials for Christmas decorations.

Pruning shears, knife or old scissors to cut wire and greens  
Ribbon for bows or cellophane straws or glass strips  
Cones, berried branches and other materials  
Wire, No. 9 for wreath hoops; No. 22 or 24 for winding;  
12 or 18 inch pieces of No. 20 or 22 wire for wiring on decorations  
Styrofoam or piece of wood and sphagnum moss for centerpiece.  
Candles for table decorations

## Greens

There are many different kinds of greens that can be used in Christmas decorations. Many can be purchased. Some may be pruned from the evergreens growing in your yard. Many may be gathered in the woods. Always obtain permission of the owner to gather the greens.

Here are some of the best greens:

<i>Balsam Fir</i>	<i>Douglas Fir</i>	<i>Blue Spruce</i>
<i>Cedar</i>	<i>White Spruce</i>	<i>Holly</i>
<i>Pine</i>	<i>Juniper</i>	<i>Mountain Laurel</i>

These are only a few of the most common greens.

Many cultivated greens such as English ivy and many others may be gathered in small quantities without damaging the plants.

Needles of spruce, particularly Black or Swamp spruce drop easily and should not be used indoors.

Dried grasses, herbs, cones, berries and seed pods may be used in place of evergreen for the body of wreaths and table decorations.

## How To Make Christmas Greens

### Table centerpieces

Table centerpieces should be planned in advance of the time they are to be used if good results are to be achieved. They must be carefully planned to fit the table and should be in good proportion. The height should be kept below the eye level of people at the table.

An easy way to make a table decoration is to use a piece of board. Cut the board to allow the evergreens to extend about six inches all the way around. Bore holes in the board for one, two or three candles. Sphagnum moss from the florist or clean fibrous moss from the woods is bound firmly with a string or wire to the wood block. The moss should be moist, but not wet. Styrofoam may be used in place of a board and moss as the base of the arrangement.



*Table decorations may be made in low bowls, in moss or in styrofoam. Sprays of evergreen, berries, cones and other decorations can be arranged in a bowl using a pin cushion holder.*

Short pieces of evergreen are sharpened and stuck into the moss. The evergreen pieces may be wired if necessary. Starting at the outer edge, pieces of evergreen six or seven inches long should be placed close together so as to cover the edge of the moss. Build up with shorter pieces of evergreen until the moss is entirely covered. One or more candles twelve to eighteen inches long are then placed in the holes. The centerpiece can then be decorated with cones, red berries and other ornaments. Evergreens are highly flammable, particularly after they dry out. Because of the danger of fire, the candles should not be lighted.

## Wreaths

The first step in making a wreath is to make the frame. The size of the frame determines the size of the finished wreath. A medium-sized wreath would have a frame ten to fifteen inches in diameter.

The frame may be made in a number of different ways. No. 9 wire may be drawn into a circle and bound together. A frame like this one can be made with privet. Twisted privet cane is easy to work with and makes an excellent frame. A coat hanger may be twisted into a circle very easily. Wire frames also may be purchased from florists.



*Frame*



*Bound with wire*

*binding* - The size of the pieces of evergreen used in binding the wreath depends on the size of the wreath to be made. A wreath with a frame of fifteen inches should have sprays of green about four to six inches long. Cut enough green for the whole wreath before you start binding. Strip the needles from the base of the stems.

Two to four sprays are held against the frame and bound firmly with No. 20 wire. This is continued right around the wreath. It is best to turn one group of twigs inward and the next outward. Be sure to pull the binder tight after each group of evergreens is added.

When the end is reached, the first sprays are held back and others are bound under them. The binder wire is then securely fastened to the frame. The wreaths can now be trimmed with ribbon, cones, berries or other decorative material.



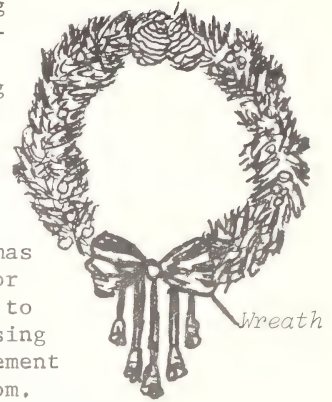
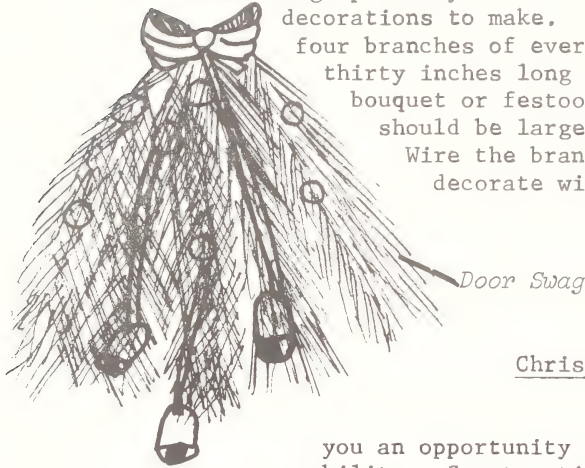
*Last bind*

Trimmings and decorations are best added after the wreath is finished and should not be worked in during the binding. It is best to wire each decoration separately and wire it to the frame. There are so many different decorations that can be used, that deciding what to use will test your imagination.

#### Door swags or sprays

Door swags probably are the easiest Christmas decorations to make. Arrange three or four branches of evergreen eighteen to thirty inches long to make a pleasing bouquet or festoon. The arrangement should be largest at the bottom.

Wire the branches securely together;  
decorate with ribbon, sleigh bells, cones, etc.



#### Christmas corsages

Christmas corsages give you an opportunity to use your creative ability. Construction principles are the same as for regular corsages. Simple Christmas corsages can be made with pieces of evergreen-like spruce or yew with a few bright berries and with a bow of 1/2 inch bright ribbon.



*Christmas Corsage*

CORSAGES, WINTER BOUQUETS AND CHRISTMAS GREENS RECORD

Name: \_\_\_\_\_

Type of Plants Used: \_\_\_\_\_

\_\_\_\_\_

Other Materials Used: \_\_\_\_\_

\_\_\_\_\_

Purpose: \_\_\_\_\_

Diagram











N.L.C. - B.N.C.  
3 3286 05518073 7

**Alberta**  
AGRICULTURE  
4-H BRANCH